

## WHAT IS CLAIMED IS:

1. An article comprising:
  - a substrate;
  - a layer of a metal phosphate material upon the surface of the substrate; and,
  - a layer of an oriented cubic oxide material having a rock-salt-like structure upon the
- 5 metal phosphate material layer.
2. The article of claim 1 further including a top-layer of a superconducting material upon the oriented cubic oxide material layer.
3. The article of claim 1 wherein said superconducting material is YBCO.
4. The article of claim 1 wherein the substrate is a flexible polycrystalline metal.
5. The article of claim 4 further including a strontium ruthenate buffer layer between the oriented cubic oxide material layer and a top-layer of a superconducting material.
6. The article of claim 1 wherein the layer of an oriented cubic oxide material having a rock-salt-like structure is deposited by ion beam assisted deposition.
7. The article of claim 6 further including a layer of homoepitaxial oriented cubic oxide material having a rock-salt-like structure between the ion beam assisted deposited cubic oxide material layer and the strontium ruthenate layer.
8. The article of claim 7 further including a top-layer of a superconducting material upon the at least one layer of a buffer material.
9. The article of claim 1 wherein the metal phosphate is aluminum phosphate.
10. The article of claim 5 wherein the metal phosphate is aluminum phosphate.
11. The article of claim 1 wherein the oriented cubic oxide material layer is magnesium oxide.
12. A thin film template structure for subsequent epitaxial thin film deposition comprising:
  - a polycrystalline flexible metal substrate;
  - a layer of an a metal phosphate upon the surface of the polycrystalline flexible metal
- 5 substrate; and,

a layer of an oriented cubic oxide material having a rock-salt-like structure upon the metal phosphate layer.

13. The thin film template structure of claim 12 wherein the thin film template structure further include a layer of  $\text{SrTi}_x\text{Ru}_{1-x}\text{O}_3$  where  $0 \leq x \leq 1$  upon the layer of an oriented cubic oxide material.

14. The thin film template structure of claim 12 wherein the oriented cubic oxide material layer is magnesium oxide.

15. The thin film template structure of claim 12 wherein the metal phosphate is aluminum phosphate.

16. The thin film template structure of claim 14 wherein the thin film template structure further include a layer of  $\text{SrTi}_x\text{Ru}_{1-x}\text{O}_3$  where  $0 \leq x \leq 1$  upon the layer of an oriented cubic oxide material.